

IN THE CLAIMS

The claims are as follows:

Claim 1 (Previously presented): A method for removing sulfur compounds contained in a hydrocarbon-containing gas comprising feeding a hydrocarbon-containing gas to a desulfurizing bed to remove sulfur compounds contained in the hydrocarbon-containing gas, wherein the desulfurizing bed comprises:

a desulfurizing agent A comprising at least one metal component selected from the group consisting of Ag, Cu, Ni, Zn, Mn, Fe, Co, an alkali metal, an alkaline earth metal and a rare earth metal carried on a zeolite; and

a desulfurizing agent B comprising at least one selected from the group consisting of cerium oxide and a metal component-carried on a porous inorganic oxide, wherein

the metal component-carried on a porous inorganic oxide is one selected from the group consisting of Ag, Cu, Ni, Zn, Mn, Fe, Co, Al, Si, an alkali metal, an alkaline earth metal and a rare earth metal, and

the porous inorganic oxide is at least one selected from the group consisting of alumina, silica, silica-alumina and cerium oxide.

Claim 2 (Original). The method for removing sulfur compounds contained in a hydrocarbon-containing gas as described in claim 1, wherein

the desulfurizing agent A has a higher desulfurizing performance to sulfides and disulfides than that of the desulfurizing agent B, and

the desulfurizing agent B has a higher desulfurizing performance to carbonyl sulfide than that of the desulfurizing agent A.

Claim 3 (Previously presented): The method for removing sulfur compounds contained in a hydrocarbon-containing gas as described in claim 1, wherein a volume ratio of

the desulfurizing agent A to the desulfurizing agent B in the desulfurizing bed is 0.1 : 0.9 to 0.9 : 0.1.

Claim 4 (Previously presented): The method for removing sulfur compounds contained in a hydrocarbon-containing gas as described claim 1, wherein zeolite in the desulfurizing agent A has a beta (BEA) and/or faujasite (FAU) structure.

Claims 5 and 6 (Canceled).

Claim 7 (Previously presented): The method for removing sulfur compounds contained in a hydrocarbon-containing gas as described claim 1, wherein a temperature of the desulfurizing bed is -20 to 100°C.

Claim 8 (Previously presented): A hydrocarbon-containing gas for a fuel cell obtained according to the method of claim 1, wherein a concentration of carbonyl sulfide is 0.1 weight ppm or less.

Claim 9 (Previously presented): The hydrocarbon-containing gas for a fuel cell as described in claim 8, wherein the hydrocarbon-containing gas for a fuel cell is at least one selected from natural gas, city gas, LPG, a naphtha fraction and dimethyl ether.

Claim 10 (Previously presented): A method for removing sulfur compounds contained in a hydrocarbon-containing gas, wherein a desulfurizing agent comprising at least zeolite is used to remove sulfur compounds contained in the raw material hydrocarbon-containing gas for a fuel cell as described in claim 8.

Claim 11 (Previously presented): A method to produce hydrogen for a fuel cell, comprising:

removing sulfur compounds contained in a hydrocarbon-containing gas by the method as described in claim 1, and

then contacting the hydrocarbon-containing gas from which the sulfur compounds have been removed with one selected from the group consisting of a partial oxidation reforming catalyst, an autothermal reforming catalyst and a steam reforming catalyst.

Claim 12 (Previously presented): The method for producing hydrogen for a fuel cell as described in claim 11, wherein the partial oxidation reforming catalyst, the autothermal reforming catalyst or the steam reforming catalyst is a ruthenium base or nickel base catalyst.

Claim 13 (Previously presented): A method for producing hydrogen for a fuel cell, wherein the hydrocarbon-containing gas as described in claim 8 is a raw material.

Claim 14 (Previously presented): A method for producing hydrogen for a fuel cell, comprising:

removing the sulfur compounds contained in the hydrocarbon-containing gas as described in claim 8, and then

contacting the hydrocarbon-containing gas from which the sulfur compounds have been removed with one selected from the group consisting of a partial oxidation reforming catalyst, an autothermal reforming catalyst and a steam reforming catalyst.

Claim 15 (Previously presented): The method for producing hydrogen for a fuel cell as described in claim 14, wherein the partial oxidation reforming catalyst, the autothermal reforming catalyst or the steam reforming catalyst is a ruthenium base or nickel base catalyst.

Claim 16 (Previously presented): The method for removing sulfur compounds contained in a hydrocarbon-containing gas as described in claim 1, wherein

the desulfurizing agent A comprises zeolite having a beta (BEA) and/or faujasite (FAU) structure and at least one metal component selected from the group consisting of Ag and Cu, and

the desulfurizing agent B comprises at least one selected from the group consisting of cerium oxide and a metal component-carried on a porous inorganic oxide, wherein

the metal component is at least one selected from the group consisting of Ag, Cu and Ni, and

the porous inorganic oxide is at least one selected from the group consisting of alumina, silica-alumina and cerium oxide.